

REMARKS

Claims 1-3, 5-12, 14 and 16 are pending in the present application. By this Amendment, claims 1 and 6-8 are amended, and claim 16 is added. No new matter is involved. Claims 1, 6-9, and 15 are independent. Reconsideration of this application, as amended, is respectfully requested.

ALLOWABLE SUBJECT MATTER

Applicants acknowledge with appreciation the indication that claims 1-3, 5 and 10 contain allowable subject matter. The allowable subject matter is set forth on page 6 of the Office Action and appears under the caption "Claim Objections." Applicants have amended claim 1 to overcome the objection thereto, found on page 2 of the Office Action, and respectfully submit that claims 1-3 and 5 are allowable for this reason. Furthermore, claims 6-8 have been amended to overcome the objection to those claims, in accordance with the helpful suggestion of the Examiner, thereby placing claims 6-8 in condition for allowance. Claim 10 is considered to be allowable because claim 9, from which it depends is allowable for reasons discussed, below, in the traversal of the rejection of claims 9 and 10.

REJECTION UNDER 35 USC §101

The Office Action rejects claims 6-8 for being directed to nonstatutory subject matter because "merely reading would not appear sufficient to constitute a useful, concrete and tangible result." This rejection is respectfully traversed.

Although Applicant believes that claims 6-8 recite a tangible measurement step and a tangible force calculation, thereby complying with the requirements of the statute, in an attempt to resolve this issue in an expeditious manner, Applicant is amending claims 6-8 to recite “outputting the calculated force,” for constituting a useful tangible result in a practical application.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

CLAIM OBJECTIONS

Claims 1 and 6-8 are objected to.

The Office Action indicates that, in claim 1, line 7, Applicant cannot ascertain “making a formula of the physical parameter of the force: and suggests using the language - - deriving a formula - -. Applicant respectfully submits that the language in issue has a clear meaning but, in order to expedite prosecution, is amending claim 1 to change “making a formula” to - - deriving a formula. - -

The Office Action objects to claim 8 “because it appears to be the same as claim 7.” In an attempt to overcome this objection, Applicant has amended claim 8 to distinguish it from claim 7 by reciting a plurality of measuring positions and reading the sensors when the sensor is at each of the predetermined measuring positions.

Accordingly, reconsideration and withdrawal of these objections are respectfully requested.

REJECTION UNDER 35 USC §102

Claims 9 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. patent 6,122,585 to Ono et al. ("Ono"). This rejection is respectfully traversed.

A prior art reference anticipates the subject matter of a claim when that reference discloses every feature of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and Hazani v. Int'l Trade Comm'n, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed Cir. 1997). While, of course, it is possible that it is inherent in the operation of the prior art device that a particular element operates as theorized by the Examiner, inherency may not be established by probabilities or possibilities. What is inherent, must necessarily be disclosed. In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

If the PTO fails to meet this burden, then the applicant is entitled to the patent. However, when a *prima facie* case is made, the burden shifts to the applicant to come forward with evidence and/or argument supporting patentability. Patentability vel non is then determined on the entirety of the record, by a preponderance of evidence and weight of argument, *Id.*

Moreover, as stated in MPEP §707.07(d), where a claim is refused for any reason relating to the merits thereof it should be "rejected" and the ground of rejection fully and clearly stated.

Additionally, findings of fact and conclusions of law by the USPTO must be made in accordance with the Administrative Procedure Act, 5 U.S.C. §706(A), (E) (1994). *Zurko v. Dickinson*, 527 U.S. 150, 158, 119 S.Ct. 1816, 1821, 50 USPQ2d 1930, 1934 (1999).

Claims 9 and 10 recite a combination of features including (1) at least one sensor for measuring a physical parameter of the vehicle wheel during rolling, said at least one sensor being attached to the radius part; and (2) a memory in which a formula that calculates the physical parameter in terms of the force exerted on the vehicle wheel at at least one predetermined measuring position is stored.

Ono neither discloses nor suggests this combination of features. The physical parameter that Ono measures is vehicle wheel speed, and the parameter it derives from vehicle wheel speed is friction torque. However, claims 9 and 10 positively recite both a sensor for measuring a physical parameter and a memory in which a formula that calculates the physical parameter is stored. In other words, the physical parameter that is measured is the very same physical parameter that is calculated. This is not what Ono does. Ono measures one physical parameter, i.e., vehicle wheel speed, but does not calculate that very same physical parameter, i.e., vehicle wheel speed. Instead, Ono measures vehicle wheel speed but calculates an entirely different physical parameter, i.e., frictional torque, on the basis of the measured physical parameter, vehicle wheel speed. Furthermore, the claims recite that the physical parameter that is calculated is calculated "in terms

of the force exerted on the vehicle wheel.” However, Ono’s vehicle wheel speed, which is used as the basis for calculating Ono’s frictional torque, is not a force exerted on the wheel, as claimed. Thus, Ono does not anticipate claim 9.

Furthermore, with respect to claim 10, the Office Action indicates that this claim is anticipated because Ono teaches that at least one sensor is fixed to the radius part of the wheel, referencing col. 35, lines 56-59 and Fig. 20 of Ono. Unfortunately, this is not what is recited in claim 10. Claim 10 positively recites that the physical parameter of claim 9 is the magnitude of radial strain on the radius part of the vehicle wheel. The Office Action fails to present any objective factual evidence of where Ono even mentions such a parameter. Moreover, it appears from a reading of Ono that what Ono measures is vehicle wheel speed, not the magnitude of radial strain on the part of the vehicle wheel. Nor has such a disclosure been shown to be inherent in Ono. As noted above, for something to be inherently disclosed, it cannot just be possibly disclosed, or just probably disclosed. Rather, it must be necessarily disclosed.

Accordingly, the Office Action fails to make out a prima facie case of anticipation of the invention recited in claims 9 and 10 by Ono.

Reconsideration and withdrawal of this rejection of claims 9 and 10 are respectfully requested.

REJECTION UNDER 35 USC §103

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,122,585 to Ono et al. ("Ono") in view of U.S. Patent 5,894,094 to Kuchler et al. ("Kuchler"). This rejection is respectfully traversed.

Because the rejection is based on 35 U.S.C. §103, what is in issue in such a rejection is "the invention as a whole", not just a few features of the claimed invention. Under 35 U.S.C. §103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under section 103 is whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. See In re O'Farrell, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the Examiner must explain what the differences between the claimed invention and the prior art are and provide objective factual evidence to support a conclusion that it would be obvious to one of ordinary skill in the art to achieve the claimed invention, which includes those missing features.

In the second place, in rejecting claims under 35 U.S.C. §103, it is incumbent on the examiner to establish a factual basis to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have

been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A showing of a suggestion, teaching, or motivation to combine the prior art references is an “essential evidentiary component of an obviousness holding.” C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing

alone, are not “evidence.” See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Moreover, a factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. See, In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Initially, this first sentence of this rejection is stated to reject only claim 14. However, the body of the rejection also mentions claim 12, so this rejection will be considered to reject claims 12 and 14.

Ono fails to disclose the invention recited in claim 9, from which claims 12 and 14 depend, for reasons discussed above. Moreover Kuchler is not applied to remedy the aforementioned deficiencies of Ono. Accordingly, even if one of ordinary skill in the art were properly motivated to modify Ono in view of Kuchler, as suggested, the resulting modified version of Ono would not meet, suggest, or otherwise render obvious, the claimed invention.

Furthermore, the Office Action fails to provide objective factual evidence of proper motivation to modify Ono in view of Kuchler. In this regard, Ono is not interested in measuring all the forces acting on the wheel. Ono is directed to measuring vehicle speed using a toothed wheel and has no use for Kuchler’s wheel force measuring assembly and would not be motivated to use it because Ono does not disclose how the information obtainable from Kuchler’s wheel force measuring assembly would be used to improve its invention.

The Examiner may not pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what

such reference fairly suggests to one of ordinary skill in the art. Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc., 796 F.2d 443, 448, 230 USPQ 416, 419 (Fed. Cir. 1986), cert. denied, 484 U.S. 823 (1987) and In re Kamm, 452 F.2d 1052, 1057, 172 USPQ 298, 301-2 (CCPA 1972), and obviousness cannot be established by locating references which describe various aspects of Appellants' invention without also providing evidence of the motivating force which would impel one skilled in the art to do what Appellants have done. Ex parte Levengood, 28 USPQ2d 1300, 1302 (Bd. App. & Int. 1993).

Further, with respect to claim 12, the Office Action never explains why Ono would be motivated to include Kuchler's four strain gauges 16 in its wheel, especially, when the Office Action fails to explain why Ono needs to make such measurements.

Accordingly, the Office Action fails to provide a showing of proper motivation to modify Ono in view of Kuchler and fails to make out a *prima facie* case of obviousness of the claimed invention.

Reconsideration and withdrawal of this rejection of claims 12 and 14 are respectfully requested.

Claim 6 stands rejected under 35 USC §102(b) as being anticipated by U.S. Patent 6,263,728 to Sumiya et al. ("Sumiya") in view of Ono. This rejection is respectfully traversed.

Initially, applicant notes that this rejection, although stated in terms of 35 USC §102(b), will be treated as a rejection under 35 USC §103(a).

Sumiya fails to disclose a number of positively recited features of the claimed invention.

Sumiya contains no disclosure whatsoever concerning obtaining data on a relationship between the force exerted on the vehicle wheel. All that Sumiya discloses is using two sensors, 14 and 18. Pressure sensor 14 measures in plane and vertical pressure of a tire on the sensor and deformation amount sensor 18 measures tire slip (col. 5, lines 57-63). Sumiya fails to disclose obtaining data on any relationship between the sensed parameters the force exerted on the vehicle wheel, and fails to derive any formula of a physical parameter for the magnitude of the force on the vehicle wheel based on data on the relationship. While Sumiya discloses an equation that calculates a static frictional force $R(L)$ based on measurements made by sensor 14, Sumiya completely fails to disclose deriving that formula based on data obtained on the relationship. In fact, Sumiya fails to disclose how it obtains the formulas it discloses. The office Action speculates that Sumiya actually does teach computing the formula, referencing col. 6, lines 50-53 of Sumiya. However, that portion of Sumiya merely discloses how the static frictional force $R(L)$ is calculated and completely fails to say how that formula is derived, and completely fails to say that the formula is derived based on data sensed by Sumiya's sensors.14 or 18.

The Office Action than admits that Sumiya does not disclose measuring the physical parameter by locating a sensor fixed to the radius part of the vehicle wheel and reading the sensor when the sensor is at a predetermined measuring position.

In an attempt to remedy these admitted deficiencies, the Office Action turns to Ono, which has vehicle wheel speed sensing means 10 "attached so as to rotate together with a wheel (col. 35, lines 54-65)."

In view of Ono, the Office Action speculates that it would be obvious to modify Sumiya to include the teaching of Ono “because it would allow control of the braking force on the wheels, referencing the Abstract, lines 4-5.

Applicant respectfully disagrees because Sumiya and Ono are significantly different so as to teach way from being combined as suggested. In this regard, Sumiya uses a test bench 12 with its sensors located in the test bench, and has no need to locate sensors in the wheel. Ono, on the other hand is directed to an actual vehicle moving on actual pavement, and is directed to not a laboratory test bench setup. The speculation that adding Ono’s wheel actual on-board vehicle speed sensors would allow control of the braking force acting on the wheels is irrelevant to Sumiya’s test bench setup, which has all the sensors it needs, and clearly is not designed to work with an actual car, or need sensors on a car to operate properly.

Because of this, the Office Action fails to make out a *prima facie* case of proper motivation to modify Sumiya in view of Ono, as suggested.

Accordingly, the Office Action fails to provide a *prima facie* case of obviousness of the invention recited in claim 6.

Moreover, even if one of ordinary skill in the art were properly motivated to modify Sumiya, as suggested, the resulting modification of Sumiya would not render claim 6 obvious because claim 5 depends from allowable, amended, claim 1.

Accordingly, reconsideration and withdrawal of this rejection of claim 6 are respectfully requested.

NEW CLAIM

Claim 16 had been added. Claim 16 depends from claim 6 and is allowable for at least that reason, for reasons discussed above presented to traverse the rejection of claim 6. Furthermore, claim 16 patentably defines over the applied prior art because it recites a feature that the outstanding Office Action indicates makes claims 1-3 and 5 allowable.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn, and that all pending claims be allowed.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Robert J. Webster, Registration No. 46,472 at (703) 205-8076 in the Washington, D.C. area.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By


Paul C. Lewis, #43,368

P.O. Box 747

Falls Church, VA 22040-0747

(703) 205-8000

28380

PCL/RJW/jmb/jg
